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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/746,228	12/26/2000	Toshitaka Nakamura	N02-125045M/KOH	1148

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EXAMINER

MARKHAM, WESLEY D

ART UNIT	PAPER NUMBER
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1762

11

DATE MAILED: 07/16/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/746,228

Applicant(s)

NAKAMURA ET AL.

Examiner

Wesley D Markham

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 April 2002 and 13 May 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 29 April 2002 is: a) ☐ approved b) ☒ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

Acknowledgement is made of applicant's amendment A, filed as paper #6 on April 29, 2002, in which the specification of the instant application was amended, proposed drawing corrections were filed, Claims 1 – 12 were canceled without prejudice or disclaimer, Claim 13 was amended, and Claims 15 – 22 were added. Acknowledgement is also made of applicant's amendment B, filed as paper #10 on May 13, 2002, in which Claim 14 was amended. Claims 13 – 22 are currently pending in U.S. Application Serial No. 09/746,228, and an Office Action on the merits follows.

Election/Restrictions

1. Applicant's election without traverse of Group II, Claims 13 – 14 (drawn to a method for producing a transparent laminate) in Paper No. 6 is acknowledged.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d) (i.e., certified copies of JP 11-369355 and JP 2000-383072, submitted on April 29, 2002 as paper #7), which papers have been placed of record in the file.

Information Disclosure Statement

3. Acknowledgment is made of the IDS filed as paper #4 on March 7, 2001. However, no English language translation or abstract was received for the document JP 55-

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11804 A. The only explanation of relevance provided by the applicant regarding this document is the discussion of the document on page 3 of the applicant's specification as filed. As such, the aforementioned document has only been considered to the limited extent on the discussion on page 3 of the applicant's specification.

Drawings

4. The proposed drawing correction and/or the proposed substitute sheets of drawings, filed on 4/29/02 with paper #6 have been disapproved. Specifically, the numerical values added to the "REFLECTIVITY [%]" axis of Figure 3 appear to be inverted. The examiner believes that, in order to correspond to the transmittance values on the left hand axis, a reflectivity of 0% should be indicated on the top right axis mark (in order to correspond to a transmittance of 100% on the top left axis mark), and a reflectivity of 100% should be indicated on the bottom right axis mark. A proper drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The correction to the drawings will not be held in abeyance.

Specification

5. The objections to the specification, set forth in paragraph 11 of the previous Office Action, are withdrawn in light of applicant's amendment A and corresponding remarks.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. The rejection of Claims 13 – 14 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, set forth in paragraphs 13 – 15 of the previous Office Action, is withdrawn in light of applicant's remarks filed on 4/29/2002. Specifically, the examiner notes that the terms "high-refractive-index" and "thin film" are sufficiently definite in view of the specification as filed, and the term "silver transparent conductive thin film" is also sufficiently definite and encompasses films that are not purely silver (such as the silver-containing films listed on pages 20 – 21 of the applicant's specification, as argued by the applicant in the "REMARKS" section of paper #6.
8. Claims 16 – 18 and 20 – 22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
9. Specifically, the limitations that "...the low-refractive-index transparent thin film is deposited before the high-refractive-index thin film depositing" in Claims 16 and 20 and that "...the low-refractive-index transparent thin film is deposited after the high-

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refractive-index thin film depositing" in Claims 17 and 21 render the claims vague and indefinite. Specifically, independent Claims 13 (from which Claims 16 and 17 depend) and 14 (from which Claims 20 and 21 depend) require at least 4 total high refractive index layers to be deposited (i.e., at least 3 layers in the combination thin film, and 1 layer on top of that). As such, it is unclear which high-refractive-index layer the low-refractive index layer is required to be deposited "before" or "after". Thus, the scope of the claims is indefinite. The examiner also notes that, while the applicant's specification as filed has support for (1) depositing a low-refractive index layer before any of the high-refractive index layers are deposited, and (2) depositing a low-refractive index layer after all the high-refractive index layers are deposited, the specification does not have support for depositing a "low-refractive index" layer in the middle of the transparent conductive thin film stack.

10. Regarding Claims 18 and 22, the claims are indefinite because it is unclear whether or not another active method step is required for "forming a plasma display panel filter with the transparent laminate".

11. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

12. Claims 13 – 22 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to

reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

13. Specifically, amended independent Claims 13 (from which Claims 15 – 18 depend) and 14 (from which Claims 19 – 22 depend) now require forming at least three combination thin film layers of the high refractive index thin film and the silver transparent conductive thin film. The specification as filed only has support for forming 3 or 4 combination thin film layers (see, for example, applicant's abstract of the disclosure), and thus the requirement of at least three combination thin film layers (which is open to an unlimited number of combination thin film layers) is "new matter" under 35 U.S.C. 112, first paragraph.

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order

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for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

16. Claims 13, 15, 17, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anzaki et al. (USPN 6,316,110 B1).
17. Regarding independent Claim 13, please see paragraph 19 of the previous Office Action. Regarding Claims 15 and 17, Anzaki et al. also teach depositing a low-refractive-index transparent thin film, such as a protective resin film that has a refractive index of, for example, 1.58 (Col.5, lines 43 – 61). The low refractive index film (i.e., the resin film) is deposited after the high-refractive index thin film depositing (Col.5, lines 62 – 65). Please note that a refractive index of 1.58 is considered by the applicant to be a low-refractive index (page 21, lines 20 – 21 of the applicant's specification). Regarding Claim 18, Anzaki et al. also teach forming a plasma display panel (PDP) filter with the transparent laminate (Abstract and Col.1, lines 5 – 15).
18. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Anzaki et al. (USPN 6,316,110 B1) in view of Okamura et al. (USPN 6,104,530).
19. Anzaki et al. teach all the limitations of Claim 16 as set forth in paragraph 19 of the previous Office Action and paragraph 17 above, except a method wherein the low-refractive index transparent thin film is deposited before the high-refractive index thin film depositing. However, Anzaki et al. do teach that an antireflective surface

treatment can be applied to the surface of the transparent substrate before applying the electromagnetic wave shield film (i.e., before the high-refractive index thin film depositing) (Col.6, lines 30 – 35). Anzaki et al. do not explicitly teach that the antireflective surface treatment comprises a low-refractive index transparent thin film. However, Okamura et al. teach that, in the art of producing transparent laminates for PDP filters (i.e., a process analogous to both that of Anzaki et al. and the applicant), antireflection films may comprise a low refractive index layer such as magnesium fluoride or silicon oxide (Col.21, lines 13 – 36) and are utilized to prevent lighting equipment from being mirrored in the display screen and making the presented image hard to see (Col.20, lines 9 – 11). Therefore, it would have been obvious to one of ordinary skill in the art to utilize a low refractive index layer such as magnesium fluoride or silicon oxide as the antireflective layer on the substrate of Anzaki et al. with the reasonable expectation of (1) success, as Anzaki et al. teach antireflective surface treatments in general for PDP filters and Okamura et al. teach that low refractive index layers of magnesium fluoride or silicon oxide are suitable as antireflective layers, and (2) obtaining the benefits of using an antireflective film, such as preventing lighting equipment from being mirrored in the display screen and making the presented image hard to see. Please note that magnesium fluoride and silicon oxide are disclosed by the applicant as examples of low-refractive index thin films (page 22, lines 12 – 14 of the applicant's specification).

20. Claims 14, 19, 21, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anzaki et al. (USPN 6,316,110 B1) in view of Noreika et al. (USPN 3,915,764) and either Nulman (USPN 5,754,297) or Shiroishi et al. (USPN 4,833,020).
21. Regarding Claim 14, please see paragraph 21 of the previous Office Action. As Claims 19, 21, and 22 correspond to Claims 15, 17, and 18, please see paragraph 17 above for the appropriate teachings in Anzaki et al.
22. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Anzaki et al. (USPN 6,316,110 B1) in view of Noreika et al. (USPN 3,915,764) and either Nulman (USPN 5,754,297) or Shiroishi et al. (USPN 4,833,020), and in further view of Okamura et al. (USPN 6,104,530).
23. The combination of Anzaki et al., Noreika et al., and either Nulman or Shiroishi et al. teaches all the limitations of Claim 20 as set forth above in paragraph 21 (which refers to paragraph 21 of the previous Office Action), except for a method wherein the low-refractive index transparent thin film is deposited before the high-refractive index thin film depositing. However, this limitation is rendered obvious in light of the teachings of Okamura et al. for the reasons set forth in paragraph 19 above.
24. Claims 13 and 15 – 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okamura et al. (USPN 6,104,530) in view of Kenzo et al. (JP 09-176837 A).

25. The combination of Okamura et al. and Kenzo et al. teaches all the limitations of Claim 13 as set forth in paragraph 23 of the previous Office Action. Further, regarding Claims 15 – 17, Okamura et al. teach that antireflective films comprising low-refractive index transparent thin films such as magnesium fluoride or silicon oxide can be formed either (1) on the transparent substrate (i.e., before the deposition of the multi-layer film, and thus before the deposition of the high-refractive index thin film) or (2) on the multi-layer film (i.e., after the deposition of the high-refractive index thin film) (Col.21, lines 13 – 50). Regarding Claim 18, Okamura et al. also teach forming a PDP filter with the transparent laminate (Abstract).
26. Claims 14 and 19 – 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okamura et al. (USPN 6,104,530) in view of Kenzo et al. (JP 09-176837 A), in further view of Noreika et al. (USPN 3,915,764) and either Nulman (USPN 5,754,297) or Shiroishi et al. (USPN 4,833,020).
27. The combination of Okamura et al., Kenzo et al., Noreika et al., and either Nulman or Shiroishi et al. teaches all the limitations of Claim 14 as set forth in paragraph 25 of the previous Office Action. Further, regarding Claims 19 – 21, Okamura et al. teach that antireflective films comprising low-refractive index transparent thin films such as magnesium fluoride or silicon oxide can be formed either (1) on the transparent substrate (i.e., before the deposition of the multi-layer film, and thus before the deposition of the high-refractive index thin film) or (2) on the multi-layer film (i.e., after the deposition of the high-refractive index thin film) (Col.21, lines 13 –

50). Regarding Claim 22, Okamura et al. also teach forming a PDP filter with the transparent laminate (Abstract).

Response to Arguments

28. Applicant's arguments filed on 4/29/2002 have been fully considered but they are not persuasive.
29. Specifically, the applicant argues that, while the temperature ranges disclosed in the applied references overlap the ranges set forth in independent Claims 13 and 14, none of the applied references teach or suggest the criticality of the claimed temperature ranges. As such, the applicant attempts to rebut the *prima facie* case of obviousness based on overlapping ranges by showing the criticality of the claimed range (i.e., a substrate temperature of from 340 to 410 K (Claim 13), preferably from 340 to 390 K (Claim 14) during the deposition of the silver transparent conductive thin films). As support for the claim of criticality, the applicant points to the specification as filed, specifically samples 1 – 8 as discussed on pages 25 – 33 of the applicant's specification.
30. In response, the examiner notes that, in order to rebut a *prima facie* case of obviousness by establishing criticality / unexpected results, the results (i.e., the evidence of nonobviousness) must be commensurate in scope with the claims which the evidence is offered to support (See MPEP 716.02(d); *In re Clemens*, 206 USPQ 289, 296 (CCPA 1980); and *In re Grasselli*, 218 USPQ 769, 777 (Fed. Cir. 1983)). This is not the case in the instant application. First, the examiner notes that

samples (1) – (4) were produced using temperatures within the applicant's claimed range, while samples (5) – (8) were produced using temperatures outside the applicant's claimed range. However, the lowest temperature tested within the applicant's claimed range was 353 K (sample (2)). Temperatures tested below 353 K include 333 K (sample (5)) and 303 K (sample (6)), both of which are outside the applicant's claimed range. As such, why is 340 K the critical low-end cutoff point for substrate temperatures? How does the applicant know that temperatures between 340 K and 353 K give the desired results (i.e., are "critical")? Therefore, this showing of criticality / unexpected results is not commensurate in scope with the claims of the instant application. Second, the examiner notes that independent Claims 13 – 14 are drawn to depositing the silver films by any vacuum dry process, while the results shown in samples (1) – (8) were obtained using a sputtering method only (see page 26 of the applicant's specification). Thus, the results are not commensurate in scope with the claims. Third, the examiner notes that independent Claims 13 – 14 are open to a number of different silver-containing films, such as silver and one member or two or more members selected from the group consisting of gold, copper, palladium, platinum, manganese, and cadmium (see pages 20 – 21 of the applicant's specification and page 11 of the applicant's remarks filed on 4/29/2002), while the results shown in samples (1) – (8) were obtained using only silver containing 5% by weight of gold (see page 25, line 25, and page 26, lines 1 – 3 of the applicant's specification). Therefore, the results are not commensurate in scope with the claims.

Conclusion

31. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).
32. A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.
33. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wesley D Markham whose telephone number is (703) 308-7557. The examiner can normally be reached on Monday - Friday, 8:00 AM to 4:30 PM.
34. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive Beck can be reached on (703) 308-2333. The fax phone numbers for the organization where this application or proceeding is assigned are

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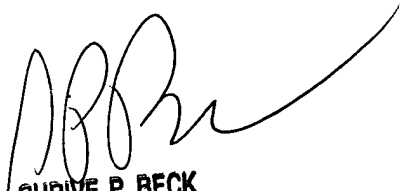
(703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

35. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Wesley D Markham
Examiner
Art Unit 1762



WDM
July 15, 2002



SHRIVE P. BECK
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